

REMARKS

Claims 1-35 are pending in the case. Claims 29-35 and 48-52 had been withdrawn pursuant to a restriction requirement. The remaining pending claims 1-28, 36-47, and 53-55 are rejected under §§102 and 103.

CLAIM OBJECTIONS

Claims 1, 13 and 22 are objected to for designation of “a translator system.” Those claims have been amended to address this objection and now recite a first translator system and a second translator system.

SECTION 102 REJECTIONS

Claims 1-3, 9-15, 20-24, 26-28, 36-38, 40, 44-46, and 53-55 are rejected under 35 U.S.C. §102(e) over the reference of Karacaoglu et al. (U.S. Patent No. 6,684, 058). The Karacaoglu et al. reference discloses a system in which a PCS band is converted to an ISM band, and then back to a PCS band. Independent claims 1, 13, 22, 36, 44, and 55 have been amended to further clarify the invention. Independent claim 53 is canceled. The Applicants assert that all the claims, as currently pending, are in an allowable form.

More specifically, independent claim 1 has been amended to recite a remote system including a remote antenna for transceiving second RF signals associated with a base station. The remote system is recited as having a first path and a second path, wherein the first path includes a second translator system operable to translate the

frequency of second RF signals to output RF signals that are located back in a first wireless communication frequency band. The second path, on the other hand, is operable for outputting the second RF signals directly in the second wireless communication frequency band without frequency translation. Figure 10 of the pending application illustrates such an embodiment wherein a first path includes frequency translation and a second path that directs the RF signals without frequency translation. For example, utilizing the PCS-to-MMDS example, the MMDS signals received by the system 900, 920, would be translated by the translator system 912 to appropriate PCS signals. However, since the MMDS band is often utilized for wireless Internet access, an additional path may be provided as shown through a modem 916 and 802.11 hub 918. As illustrated in Figure 10, the wireless hub 918 provides direct, non-translated communication over the MMDS band while the system can still process PCS signals over the first path. In that way, the present invention significantly expands the capabilities of the system, and provides direct communication to a variety of customer premises equipment (CPE).

The limitations recited in claim 1 incorporate the limitations from canceled claim 11. In the rejection of claim 11, the Examiner refers to column 9, lines 13-34 of the Karacaoglu et al. reference. However, all that that section of the reference refers to is the reverse link of the system. For example, the reverse link in the Karacaoglu et al. reference example receives PCS signals, upconverts the PCS signals to an ISM band, and then transmits the signals at the ISM band. The Examiner thus argues that the Karacaoglu et al. system provides second RF signals and in the second wireless communication frequency band because it transceives at that band.

However, the system recited in claim 1 is not directed to the difference between the uplink and the downlink signals. Rather, in the claimed system, for a particular downlink, the signal will utilize multiple paths. It has a first path that includes a translator system to translate the frequency of the second RF signal back to the first wireless communication frequency band, and a second path that is operable for outputting the second RF signals directly in a second wireless communication frequency band without frequency translation. That is, it receives the second RF signal and a second wireless communication frequency band and, depending upon the path, either outputs signals in a first wireless communication frequency band, or maintains the signals in the second wireless communication frequency band without frequency translation.

There is absolutely no teaching in the Karacaoglu et al. reference of that claimed feature. More specifically, as noted in column 9, lines 13-34, the reverse link still requires translation from PCS up to ISM, as recited in lines 21-24. Accordingly, the Karacaoglu et al. reference does not in any way teach the invention as recited in claim 1. As such, the Karacaoglu et al. reference cannot anticipate claim 1 under §102(e) and claim 1 is allowable. The pending dependent claims 2-10 and 12 each depend from claim 1 and each recites the limitations therein. Furthermore, each of those claims recites a unique combination of elements not taught by the cited art and not anticipated under §102(e) by the Karacaoglu et al. reference. Accordingly, those claims are also in an allowable form.

Claim 13 has also been amended like claim 1 and recites a second transceiving system, which is remote from a first transceiving system, wherein the transceiving system has a first path and a second path. The first path includes a translator system to translate the frequency of the second RF signals back to the first band, and a second

path operable for outputting the second RF signals directly in the second band without frequency translation. For the same reasons as discussed above, independent claim 13 is not anticipated under §102(e) under the Karacaoglu et al. reference and is allowable over that reference.

Pending claims 14-20 each depend from claim 13 and thus include the limitations therein. Furthermore, those claims recite unique combinations of elements not anticipated under §102(e) by the Karacaoglu et al. reference. Accordingly, those claims are also in an allowable form. Claim 21 has been canceled.

Claim 22 has been amended to recite that the remote antenna system transceives the second RF signals and is operable to output third RF signals located in a third wireless communication frequency band different from the first and second wireless communication frequency bands. With respect to the Karacaoglu et al. reference, the Examiner refers to column 12, lines 45-48. Therein, the reference recites that the far- end ISM transceiver downconverts the ISM signals to the PCS bands (or other bands) and radiates them to other PCS users thereby creating a new “virtual”cell. The Examiner argues that the Karacaoglu et al. reference teaches the invention in claim 22. More specifically, the Examiner recites to the downconversion to PCS bands, or other bands, as teaching other wireless communication frequency bands. However, the context of the sentence referred to merely recites to downconversion from ISM signals to some other band, i.e., the PCS band or some other band. However, if the signals start off as PCS signals and are upconverted to ISM signals, and then downconverted from ISM signals back to the starting band, then the Karacaoglu et al. reference teaches that they are converted back to the PCS band

or back to the first band, whatever it was. The other bands refer to the first band as being something other than PCS.

There is no teaching in the Karacaoglu et al. reference that a signal would start off at a base station in a first band and then be upconverted to a second band, then again translated (e.g., downconverted) to a third band that is different from the first band from where it started and different from the second band. The sentence referred to by the Examiner does not teach the concept of having three distinct bands in the frequency translation of the communication system as claimed in claim 22.

Accordingly, the Karacaoglu et al. reference does not in any way anticipate the invention of claim 22 because it does not teach each and every one of the elements recited in that claim. The dependent claims 23-28 each depend from claim 22 and further recite unique combinations of elements not anticipated under §102 by the Karacaoglu et al. reference. Accordingly, those claims are also in an allowable form.

The recitation in the independent method claims 36, 44 and 55 are all rejected under §102(e) over the Karacaoglu et al. reference utilizing the same rationalization used to reject claims 1 and/or claim 22. Claim 36 has been amended in line with the amendments to claim 1; whereas, the amendments to claims 44 and 55 resemble those in claim 22. As such, each of those independent claims is allowable over the Karacaoglu et al. reference for the same reasons as discussed above with respect to their respective apparatus claims. Furthermore, each of the dependent claims 37-38, 40, and 45-46 are allowable for the same reasons and further recite unique combinations of method steps that are not anticipated by the cited art. Claims 53 and 54 have been cancelled.

SECTION 103 REJECTIONS

Claims 4-8, 16-19, 25, 39, and 47 are rejected under U.S.C. 35 §103(a) over the reference of Karacaoglu et al. as modified by Elrefaie et al. (U.S. Patent No. 6,243,577). The Examiner refers to the Elrefaie et al. reference with respect to teaching various bands from the group of bands set forth in claims 4 and 5. However, the Examiner states that the LMDS frequency band obviously includes a group of bands comprising unlicensed 900, unlicensed PCS, etc. ... However, such a statement is not true, as the LMDS band is generally considered a band located in sections of 27.5–31.3 GHz band. As such, the LMDS moniker is not a catchall for various of the other bands.

In any case, claim 1 from which claims 4 and 5 depend, is allowable over the Karacaoglu et al. reference, and the teachings as found in Elrefaie et al. do not change that conclusion. As such, the Applicants submit that claims 4 and 5 are not rendered obvious over the combination of Karacaoglu et al. and Elrefaie et al.

With respect to claim 6-8, the Examiner recites to the Elrefaie et al. reference for the teaching regarding picocells and the location of the remote antenna system. Notwithstanding any such teaching in Elrefaie et al. regarding picocells, the Applicants note that claims 6-8 also depend from claim 1 and, thus, would be allowable for the reasons discussed above with respect to the Karacaoglu et al. reference.

The remaining claims 16-19, 25, 39 and 47 are rejected for the reasons set forth with respect to claims 4-8. For the same reasons as discussed above with respect to claims 4-8, claims 16-19 25, 39 and 47 are not rendered obvious by the cited references of Karacaoglu et al. and Elrefaie et al., and are thus allowable.

Finally, claims 42-43 have been cancelled; thus, their rejection is moot.


CONCLUSION

The Applicants submit that the currently pending claims are in an allowable form and, therefore, requests a Notice of Allowability of the application at the Examiner's earliest convenience. If any issues remain in the case which might be handled in an expedited fashion, such as through a telephone call or an Examiner's Amendment, the Examiner is certainly encouraged to telephone the Applicants' representative or to issue an Examiner's Amendment.

Applicant knows of no fees due herein with this submission. However, if any charges or credits are necessary, please apply them to Deposit Account 23-3000.

Respectfully submitted,

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